

# WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

## DIVISION OF HIGHWAYS

### SPECIAL PROVISION

### FOR

### SECTION 609 SIDEWALKS

#### 609.1-DESCRIPTION:

This work shall consist of the construction of portland cement concrete sidewalks in accordance with these Specifications and in reasonably close conformity with the lines and grades shown on the Plans or established by the Engineer.

#### 609.2-MATERIALS:

Materials shall meet the requirements specified in the following Subsections of Division 700:

MATERIAL		SUBSECTION
Expansion Joint Filler (Preformed)		708.1, 708.2
Joint Sealing Material		708.3
Detectable Warning Surface Pavers	Concrete	ASTM C 55, Grade N, solid brick
	Brick	ASTM C902, Class SX, Type I
Sand		702.2
Asphalt Plastic Cement		708.9

**Detectable Warning Surface Pavers:** Detectable warning surface pavers shall have detectable warning surface meeting the ADA requirements. The plan dimensions shall be 4 in. X 8 in. (100 mm X 200 mm) and shall not deviate more than 1/16 inch (3 mm). The thickness shall be a minimum of 2 in. (50 mm). The thickness of each paver shall not vary from paver to paver more than 1/16 inch (3mm). The pavers shall be federal standard 595 color 30109 or as shown in the plans or as approved by the engineer. The color of the pavers shall contrast to the color of the adjacent sidewalk, sidewalk flares and pavement. The pavers shall have a minimum skid resistance of 0.60 wet condition, 0.70 dry condition when tested per ASTM C 1028.

**Bed Course Material:** Bed course material shall consist of approved gravel, crushed stone, or crushed slag meeting the gradation requirements in 704.6.2 for Class 1 or Class 2, unless otherwise specified on the Plans.

Quality control testing of aggregate bed course material is the responsibility of the Contractor as specified in 106.1.

In the event any material does not conform to the specified gradation requirements the contractor's written certification shall reflect said nonconformance with quantities thereof. The contractor's gradation data will be evaluated for specification compliance in accordance with applicable portions of section 307 of these specifications. The certification is to include the results of testing from samples obtained at a minimum frequency of one sample per day of aggregate production or stockpiling or one sample per placement day, sampling from the working face of an existing stockpile.

Concrete shall be Class B conforming to the requirements of 601.

## **CONSTRUCTION METHODS**

### **609.3-SUBGRADE PREPARATION:**

The subgrade shall be constructed true to grade and cross section as shown on the Plans or directed by the Engineer. It shall be watered, if required, and thoroughly compacted before placing the concrete or bed course material. All soft and yielding material shall be removed and replaced with suitable material.

The completed subgrade shall be tested for grade and cross section by means of a template supported on the side forms.

### **609.4-DRY BED:**

When called for on the Plans, bed course material shall be placed on the subgrade to the depth and width specified and compacted.

### **609.5-FORMS:**

Forms shall be of wood or metal and shall extend for the full depth of the concrete. All forms shall be straight, free from warp, and of sufficient strength to resist the pressure of the concrete without springing. Bracing and staking of forms shall be such that the forms remain in both horizontal and vertical alignment until their removal. All forms shall be cleaned and oiled before being used.

### **609.6-MIXING AND PLACING CONCRETE:**

The foundation and surfaces not oiled shall be thoroughly moistened immediately prior to the placing of the concrete. The proportioning, mixing, and placing of the concrete shall be in accordance with the requirements for the class of concrete specified.

### **609.7-EXPANSION JOINTS:**

Expansion joints  $\frac{1}{4}$  in. (6 mm) wide shall be constructed at 30 ft. (9 m) intervals, at all returns, and opposite expansion joints in adjacent curb. A longitudinal expansion joint  $\frac{1}{4}$  in. (6 mm) wide shall be placed between sidewalk and curb. Expansion joints shall be filled with preformed joint filler, which shall be shaped to fit the concrete section being placed.

Where sidewalks are to be placed around or adjacent to manholes, drop inlets, or other miscellaneous structures in sidewalk areas, such structures shall not be constructed to final grade until after the sidewalk has been constructed for a reasonable distance on each side of the structure. Expansion joints, of the type specified above, shall be constructed between all such appurtenances and the sidewalk.

Expansion Joints shall be provided around all sidewalk ramps and ramp flares.

With the approval of the Engineer, preformed filler in longitudinal expansion joints between sidewalks and curbs may be eliminated, and the opening remaining after sidewalk has been placed shall be filled with joint sealing material.

#### **609.8-FINISHING:**

**609.8.1-Concrete:** Fresh concrete shall be struck off and compacted until a layer of mortar has been brought to the surface. The surface shall be finished to grade and cross section with a float, troweled smooth, and finished with a broom. The float shall be not less than 10 feet (3 m) in length and not less than 6 inches (150 mm) in width. Brooming shall be transverse to the line of traffic, and the broom shall be kept clean.

All outside edges of the slab and all joints shall be edged with a ¼ in. (6 mm) radius edging tool.

The surface of sidewalks shall be marked into rectangles of not less than 12 sq. ft. (1 sq. m) with a scoring tool which will form dummy joints and rounded sidewalk edges. The dummy joints shall extend into the concrete ¾ in. (9 mm) depth and shall be approximately ¾ in. (3 mm) wide.

The finished surface shall not vary more than ¼ in. (6 mm) from a 10 ft. (3 m) straightedge, except at grade changes, and shall be free from blemishes.

**609.8.2- Detectable Warning Surface:** The sidewalk concrete shall cure a minimum of 72 hours prior to placement of the detectable warning surface. The area that the pavers are to be installed in shall be thoroughly cleaned and allowed to dry. Then the asphalt plastic cement shall be applied to the bottom and sides of the area where the pavers are to be installed with a thickness of 1/8 inch. Then the pavers shall be laid in a two by two basket weave pattern. The joints between the pavers shall not exceed 1/8 inch. The pavers shall not deviate more than 1/16" from the finished grade of the ramp surface. The grade will be measured from the top of the paver unit excluding the texture. Pavers shall be saw cut only and any cut paver shall not be less than 25 percent of a full paver. The texture shall be aligned in the direction of pedestrian travel. After the pavers are in place dry sand shall be swept into the joints and misted by water until the joints are completely filled with sand.

#### **609.9-CURING:**

Concrete shall be cured for at least 72 hours. Curing shall be by means of moist burlap mats, membrane curing compound, vapor barrier, or by other approved methods. During the curing period, all traffic, both pedestrian and vehicular, shall be excluded. Vehicular traffic shall be excluded for such additional time as the Engineer may direct.

**609.10-METHOD OF MEASUREMENT:**

Sidewalks will be measured in square yards (meters), complete in place and accepted, which will be determined by the length measured upon the surface times the width constructed, as authorized by the Engineer. The detectable warning surface of the sidewalk ramp shall not be paid for separately but shall be incidental to the sidewalk construction. Bed course material will be measured by the cubic yard (meter), complete in place and accepted. Where a driveway crosses a sidewalk, the intersecting area shall be constructed to the driveway specifications and shall not be measured for payment as sidewalk area.

**609.11-BASIS OF PAYMENT:**

The quantities, determined as provided above, will be paid for at the contract unit prices bid for the items listed below, which prices and payment shall be full compensation for furnishing all the materials and doing all the work prescribed in a workmanlike and acceptable manner, including all labor, tools, equipment, supplies, and incidentals necessary to complete the work.

**609.12-PAY ITEMS:**

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>
609001-*	Concrete Sidewalk	SQUARE YARD (METER)
609002-*	Bed Course Material	CUBIC YARD (METER)

\*Sequence number